DEPARTMENT OF COMMUNITY SERVICES
PLANNING DIVISION
TOWN OF WEST HARTFORD
50 SOUTH MAIN STREET
WEST HARTFORD, CT 06107-2431
TEL: (860) 561-7555 FAX: (860) 561-7504
www.westhartford.org

# PERMIT APPLICATION FOR INLAND WETLANDS & WATERCOURSES

## ACTIVITY: (check one of the following)

X MAP AMENDMENT ___ REGULATED ACTIVITY

File # 1049 Application Fee $773.60 Surcharge Fee $60 Date Received 11-10-16

Street Address of Proposed Application: 107 Hillcrest Avenue

Zone: RM-3 Acreage/Lot Area 9.4 a.c Parcel/Lot# 2701 1 107 0001

Applicant's Interest in Property: Applicant proposed infrastructure is located within the property designated as upland review area

Brief Description of Proposed Activity: Construction of Hydraulic Overflow Structure - Newington Trunk Sewer High Outlet relief Structure

**The undersigned warrants the truth of all statements contained herein and in all supporting documents to the best of his/her knowledge and belief. Furthermore, the applicant agrees that submission of this document constitutes permission and consent to Commission and Staff inspections of the site.** ***Note: Notice is hereby given the Connecticut Department of Public Health must be notified by applicants for any project located within a public water supply aquifer protection area or watershed area. (CTDPH website at http://www.dph.state.ct.us)***

CENTRAL CONNECTICUT ASSOCIATES LLC
Record Owner's Name
C/O HOUSING CONSULTANTS LLC
365 LEDYARD STREET
Street

HARTFORD | CT | 06114
City | State | Zip

860-231-8080 x-21
Telephone #

Andrew Perham for MDC
Applicant's Name
555 main Street
Street

Hartford | CT | 06103
City | State | Zip

860-278-7850 ext.3449
Telephone #

**Contact Person:**

Sankar Ganesh
Name
500 Enterprise Dr. #1A
Street

Rocky Hill | CT | 06067
City | State | Zip

860-263-5794
Telephone #

sankar.ganesh@aecom.com
E-Mail

FOR MDC
Applicant's Signature

Signature of Owner/Authorized Agent

U:\dl\TPZ\Templates\IWWAPermitApplication_April13

AECOM
500 Enterprise Drive
Suite 1A
Rocky Hill, CT 06067
www.aecom.com

860 263 5800 tel
860 263 5777 fax



September 20, 2016

Todd Dumais, Town Planner
West Hartford Town Hall
50 South Main Street, Room 214
West Hartford, CT 06107

**Subject: Application for Wetlands Map Amendment at 107 Hillcrest Avenue, West Hartford**

Dear Mr. Dumais,

On Behalf of the Applicant, the Metropolitan District (MDC), AECOM is pleased to submit this Town of West Hartford Inland Wetlands and Watercourses (IWWC) Permit Application (Application) for Wetlands Map Amendment at 107 Hillcrest Avenue. See Attachment "A" for project site location and existing wetland delination from the West Hartford GIS Mapping System.

A site visit was conducted by Fitzgerald and Halliday (FHI) soil scientist David Laiuppa in December, 2015 at the subject property to verify the accuracy of existing wetlands delineation based on the Town of West Hartford GIS database. FHI is a sub to AECOM on the South Tunnel project. During the site visit it was established that the Town wetlands boundary will have to be adjusted as wetland soil types were found further inland than the Town depicted wetlands boundary. Please see Attachments "B and C" for a detailed wetlands report by a certified soil scientist and wetland map amendment figure that shows boundaries that would have to be updated based on wetland delineations.

A completed Town of West Hartford Application Form and Connecticut Department of Energy and Environmental Protection (CT DEEP) Reporting Form are enclosed.

MDC requests that the Town of West Hartford Inland Wetland and Watercourses Agency review this application.

Sincerely,

Sankar Ganesh, P.E
Project Engineer

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

# STATEWIDE INLAND WETLANDS & WATERCOURSES ACTIVITY REPORTING FORM

Pursuant to section 22a-39(m) of the General Statutes of Connecticut and section 22a-39-14 of the Regulations of Connecticut State Agencies, inland wetlands agencies must complete the Statewide Inland Wetlands & Watercourses Activity Reporting Form for each action taken by such agency.

This form may be made part of a municipality's inland wetlands application package. If the municipality chooses to do this, it is recommended that a copy of the Town and Quadrangle Index of Connecticut and a copy of the municipality's subregional drainage basin map be included in the package as well.

Please remember, the inland wetlands agency is responsible for ensuring that the information provided is accurate and that it reflects the final action of the agency. Incomplete or incomprehensible forms will be mailed back to the agency. Instructions for completing the form are located on the following page.

The inland wetlands agency shall mail completed forms for actions taken during a calendar month no later than the 15th day of the following month to the Department of Energy and Environmental Protection (DEEP). Do not mail this cover page or the instruction page. **Please mail only the completed yellow reporting form to:**

Wetlands Management Section
Inland Water Resources Division
Department of Energy & Environmental Protection
79 Elm Street, 3rd Floor
Hartford, CT 06106

Questions may be directed to the DEEP's Wetlands Management Section at (860) 424-3019.

# *INSTRUCTIONS FOR COMPLETING*

## *THE STATEWIDE INLAND WETLANDS & WATERCOURSES ACTIVITY REPORTING FORM*

Use a separate form to report each action taken by the Agency. Complete the form as described below.

PLEASE PRINT CLEARLY

**PART I: To Be Completed By the Inland Wetlands Agency Only**

1. Enter the year and month the Inland Wetlands Agency took the action being reported. If multiple actions were taken regarding the same project or activity then multiple forms need to be completed. Enter ONE year and month per form.

2. Enter ONE code letter to describe the final action or decision taken by the Inland Wetlands Agency. *Do not submit a reporting form for withdrawn applications*. Do not enter multiple code letters (for example: if an enforcement notice was given and subsequent permit issued - two forms for the two separate actions are to be completed).

   **A** = A Permit Granted by the Inland Wetlands Agency (*not including map amendments, see code D below*)
   **B** = Any Permit Denied by the Inland Wetlands Agency
   **C** = A Permit Renewed or Amended by the Inland Wetlands Agency
   **D** = A Map Amendment to the Official Town Wetlands Map - or -
   An Approved/Permitted Wetland or Watercourse Boundary Amendment to a Project Site Map
   **E** = An Enforcement Notice of Violation, Order, Court Injunction, or Court Fines
   **F** = A Jurisdictional Ruling by the Inland Wetlands Agency (i.e.: activities "permitted as of right" or activities considered non-regulated)
   **G** = An Agent Approval pursuant to CGS 22a-42a(c)(2)
   **H** = An Appeal of Agent Approval Pursuant to 22a-42a(c)(2)

3. Check "Yes" if a public hearing was held in regards to the action taken; otherwise check "No".

4. Enter the name of the Inland Wetlands Agency official verifying that the information provided on this form is accurate and that it reflects the FINAL action of the agency.

**PART II: To Be Completed by the Inland Wetlands Agency or the Applicant** - If Part II is completed by the applicant, the applicant must return the form to the Inland Wetlands Agency. The Inland Wetlands Agency must ensure that the information provided is accurate and that it reflects the FINAL action of the Agency.

5. Enter the name of the municipality for which the Inland Wetlands Agency has jurisdiction and in which the action/project/activity is occurring.

   Check "Yes" if the action/project/activity crosses municipal boundaries and enter the name(s) of the other municipality(ies) where indicated. Check "No" if it does not cross municipal boundaries.

6. Enter the USGS Quad Map name or number (1 through 115) as found on the Connecticut Town and Quadrangle Index Map (the directory to all USGS Quad Maps) that contains the location of the action/project/activity. See the following website for USGS Quad Map names and numbers:
   http://ct.gov/deep/lib/deep/gis/resources/Index_NamedQuadTown.pdf

   ALSO enter the four-digit identification number of the corresponding Subregional Drainage Basin in which the action/project/activity is located. If the action/project/activity is located in more than one subregional drainage basin, enter the number of the basin in which the majority of the action/project/activity is located. Town subregional drainage basin maps can be found at UConn – CLEAR's website: http://clear.uconn.edu/data/map_set/index.htm

7. Enter the name of the individual applying for, petitioning, or receiving the action.

8. Enter the name and address or location of the action/project/activity. Check if the the action/project/activity is TEMPORARY or PERMANENT in nature. Also provide a brief description of the action/project/activity.

9. CAREFULLY REVIEW the list below and enter ONE code letter which best characterizes the action/project/activity. All state agency projects must code "N".

**A** = Residential Improvement by Homeowner
**B** = New Residential Development for Single Family Units
**C** = New Residential Development for Multi-Family / Condos
**D** = Commercial / Industrial Uses
**E** = Municipal Project
**F** = Utility Company Project
**G** = Agriculture, Forestry or Conservation
**H** = Wetland Restoration, Enhancement, Creation
**I** = Storm Water / Flood Control
**J** = Erosion / Sedimentation Control
**K** = Recreation / Boating / Navigation
**L** = Routine Maintenance
**M** = Map Amendment
**N** = State Agency Project
**P** = Other (this code includes the approval of concept plans with no-on-the-ground work)

10. Enter between one and four code numbers to best characterize the project or activity being reported. Enter "NA" if this form is being completed for the action of map amendment. You must provide code 12 if the activity is located in an established upland review area (buffer, setback). You must provide code 14 if the activity is located BEYOND the established upland review area (buffer, setback) or NO established upland review area (buffer, setback) exists.

**1** = Filling
**2** = Excavation
**3** = Land Clearing / Grubbing (no other activity)
**4** = Stream Channelization
**5** = Stream Stabilization (includes lakeshore stabilization)
**6** = Stream Clearance (removal of debris only)
**7** = Culverting (not for roadways)
**8** = Underground Utilities (no other activities)
**9** = Roadway / Driveway Construction
**10** = Drainage Improvements
**11** = Pond, Lake Dredging / Dam Construction
**12** = Activity in an Established Upland Review Area
**14** = Activity in Upland

**Examples:** Jurisdictional ruling allowing construction of a parking lot in an upland where the municipality *does not* have an established upland review area must use code 14; other possible codes are 2 and 10. Permitted construction of a free standing garage (residential improvement by homeowner) partially in an established upland review area with the remainder in the upland must use code 12 and 14; other possible codes are 1 and 2. Permitted dredging of a pond must use code 11; other possible codes are 12 and 5.

11. Leave blank for TEMPORARY alterations but please indicate action/project/activity is temporary under question #8 on the form. For PERMANENT alterations, enter in acres the area of wetland soils or watercourses altered. Include areas that are permanently altered, or are proposed to be, for all agency permits, denials, amendments, and enforcement actions. For those activities that involve filling or dredging of lakes, ponds or similar open water bodies enter the acres filled or dredged under "open water body". For those activities that involve directly altering a linear reach of a brook, river, lakeshore or similar linear watercourse, enter the total linear feet altered under "stream". Remember that these figures represent only the acreage altered not the total acreage of wetlands or watercourses on the site. You MUST provide all information in ACRES (or linear feet as indicated) including those areas less than one acre. To convert from square feet to acres, divide square feet by the number 43,560. Enter zero if there is no alteration.

12. Enter in acres the area of upland altered as a result of an ACTIVITY REGULATED BY the inland wetlands agency, or as a result of an AGENT APPROVAL pursuant to 22a-42a(c)(2). Leave blank for TEMPORARY alterations but please indicate action/project/activity is temporary under question #8 on the form. Include areas that are permanently altered, or proposed to be permanently altered, for all agency permits, denials, amendments, and enforcement actions. Inland wetlands agencies may have established an upland review area (also known as a buffer or setback) in which activities are regulated. Agencies may also regulate activities beyond these established areas. You MUST provide all information in ACRES including those areas less than one acre. To convert from square feet to acres, divide square feet by the number 43,560. Enter zero if there is no alteration. Remember that these figures represent only the upland acreage altered as a result of an activity regulated by the inland wetlands agency, or as a result of an agent approval.

13. Enter the acres that are, or are proposed to be, restored, enhanced or created for all agency permits, denials, amendments, and enforcement actions. NOTE restored or enhanced applies to previously existing wetlands or watercourses. Created applies to a non-wetland or non-watercourse area which is converted into wetlands or watercourses (question #10 must provide 12 and/or 14 as an answer, and question #12 must also be answered). You MUST provide all information in ACRES including those areas less than one acre. To convert from square feet to acres, divide square feet by the number 43,560. Enter zero if there is no restoration, enhancement or creation.

**PART III: To Be Completed By The DEEP** - Please leave this area blank. Incomplete or incomprehensible forms will be mailed back to the inland wetlands agency.

Connecticut Department of
ENERGY & ENVIRONMENTAL PROTECTION

GIS CODE #: _____
For DEEP Use Only

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

# Statewide Inland Wetlands & Watercourses Activity Reporting Form

*Please complete - print clearly - and mail this form in accordance with the instructions on pages 2 and 3 to:*
*Wetlands Management Section, Inland Water Resources Division, CT DEEP, 79 Elm Street – 3rd Floor, Hartford, CT 06106*

## PART I: To Be Completed By the Municipal Inland Wetlands Agency Only

1. DATE ACTION WAS TAKEN (enter one year and month): Year _____ Month _____
2. ACTION TAKEN (enter one code letter): _____
3. WAS A PUBLIC HEARING HELD (check one)? Yes ____ No ____
4. NAME OF AGENCY OFFICIAL VERIFYING AND COMPLETING THIS FORM:

   (type name) _____ (signature) _____

## PART II: To Be Completed By the Municipal Inland Wetlands Agency or the Applicant

5. TOWN IN WHICH THE ACTION IS OCCURRING (type name): West Hartford

   Does this project cross municipal boundaries (check one)? Yes ____ No X

   If Yes, list the other town(s) in which the action is occurring (type name(s)): _____, _____
6. LOCATION (see directions for website information): USGS Quad Map Name: Hartford South or Quad Number: 52

   Subregional Drainage Basin Number: 4403
7. NAME OF APPLICANT, VIOLATOR OR PETITIONER (type name): The Metropolitan District (MDC)
8. NAME & ADDRESS/LOCATION OF PROJECT SITE (type information): 107 Hillcrest Avenue

   Briefly describe the action/project/activity (check and type information): Temporary ____ Permanent X

   Description: Wetlands Map Amendment
9. ACTIVITY *PURPOSE* CODE (enter one code letter): M
10. ACTIVITY *TYPE* CODE(S) (enter up to four code numbers): NA, ____, ____, ____
11. WETLAND / WATERCOURSE AREA ALTERED (type in acres or linear feet as indicated):

    Wetlands: 0.0 acres Open Water Body: 0.0 acres Stream: 0.0 linear feet
12. UPLAND AREA ALTERED (type in acres as indicated): ____ acres
13. AREA OF WETLANDS / WATERCOURSES RESTORED, ENHANCED OR CREATED (type in acres as indicated): 0.0 acres

DATE RECEIVED: **PART III: To Be Completed By the DEEP** DATE RETURNED TO DEEP:

FORM COMPLETED: YES NO FORM CORRECTED / COMPLETED: YES NO

**Town of West Hartford**
**50 South Main Street, Room 214**
**West Hartford, CT 06107**

**Wetland Application Fees***
**Wetlands Map Amendment NTS HOR location**

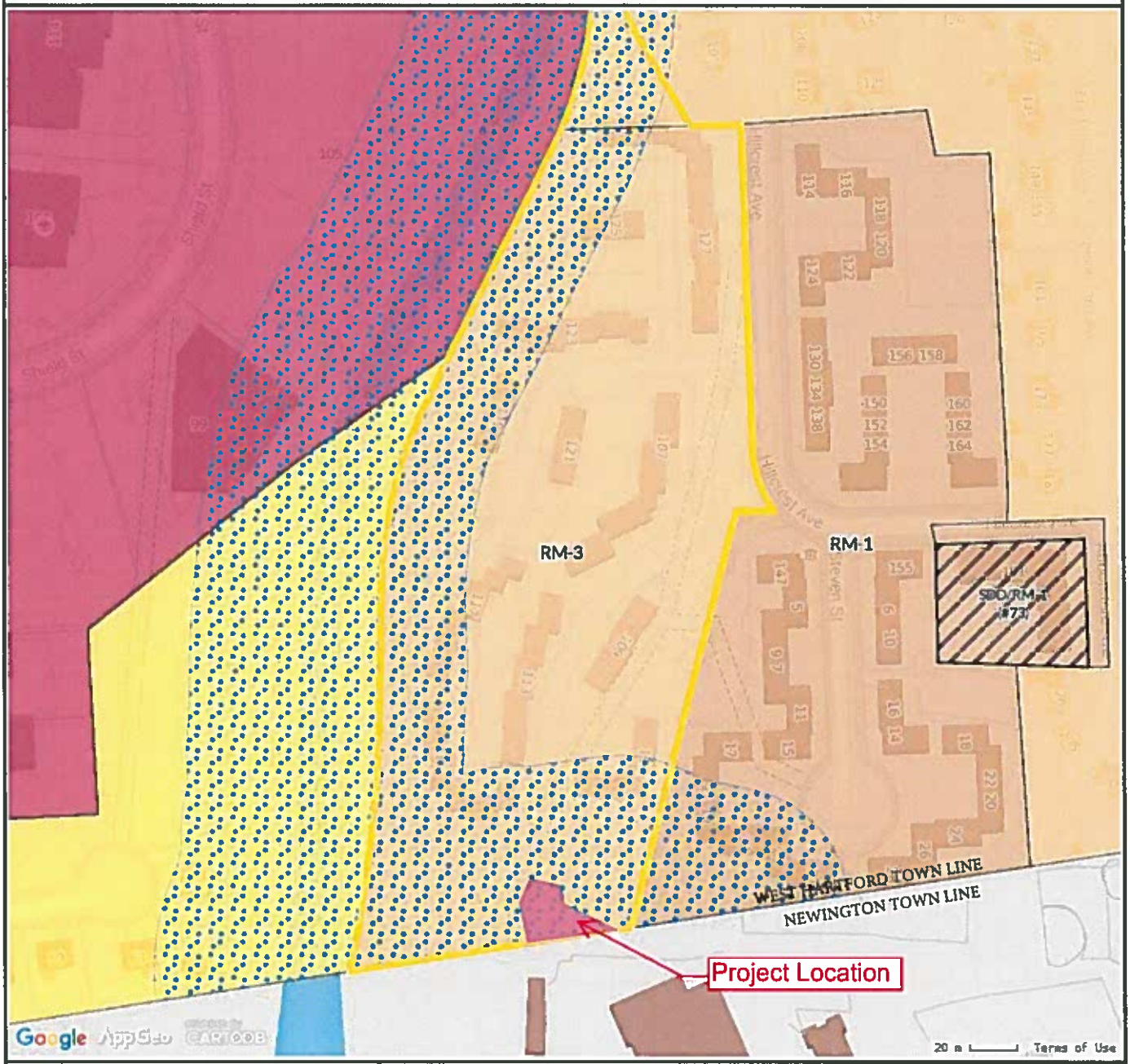
**IWW**

| | | | | |
|---|---|---|---|---|
| **Public Hearing Fee** | | | | $ 150.00 |
| **DEEP FEE** | | | | $ 60.00 |
| **Inland Wetland Application** | | | | |
| IWW New Boundary = | 760 | LF | | |
| IWW Map Amendment: | $350 + $40/100 linear foot designated as new boundary if less than 500 L.F.<br>+ $36/100 linear foot for new boundary from 500 to 1,000 L.F.<br>+ $30/100 linear foot for new boundary if more than 1,000 L.F. but not less than $400. | | | |
| $ 350.00 | plus | $273.60 | | $ 623.60 |
| | | | **Total Permit Fee** | **$833.60** |

# Attachment A

# West Hartford GIS Mapping / Project Location

# EXISTING WETLANDS MAP - TOWN OF WEST HARTFORD GIS MAPPING




**Property Information**

| | |
|---|---|
| **Property ID** | 2701 1 107 0001 |
| **Location** | 107 HILLCREST AVENUE |
| **Owner** | CENTRAL CONNECTICUT |

TOWN OF WEST HARTFORD

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

Town of West Hartford, CT makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Parcels updated 5/22/2015
Properties updated Daily

# Map Theme Legends

## Wetlands

Wetlands
- Wetlands
- Added Wetlands
- Deleted Wetlands
- Developed Wetlands

Regulated Wetlands
- 150' Regulated Wetlands

## Zoning

Zoning Overlay
- SDD Special Development District Overlay
- TND Traditional Neighborhood Design District Overlay

Zoning
- R-80 Residence District
- R-40 Residence District
- R-20 Residence District
- R-13 Residence District
- R-10 Residence District
- R-6 Residence District
- RM-4 Multifamily Residence District
- RM-3 Multifamily Residence District
- RM-3R Multifamily Residence District
- RM-MS Multifamily, Multi-Story Residential District
- RM-1 Multifamily Residence District
- RM-O Residential/Multifamily Residence District
- RI Residence-Institutional District
- EP Elizabeth Park District
- RO Residential-Office District
- RCO Residential Character-Office District
- RP Residence Parking District
- BOL Business Office Laboratory
- BO Office District
- BN Neighborhood Business District
- BND Neighborhood Business Design District
- BS Shopping Center District
- BC Central Business District
- CBDH Central Business District
- BG General Business District
- IP Industrial Park District
- IE Exclusive Industrial District
- IR Restricted Industrial District
- IG General Industrial District

# Attachment B

# Wetland Delineation Report

Technical Memorandum

# MDC South Hartford Conveyance and Storage Tunnel – Steven Street/North Mountain Road

# Newington/West Hartford, Connecticut

## Wetland Delineation Report

**Prepared under contract to:**

**AECOM**

**For:**

**The Metropolitan District Commission**

**By:**

**FITZGERALD & HALLIDAY, INC.**
**416 Asylum Street**
**Hartford, CT 06103**

**April 2016**

## Table of Contents

## 1.0 INTRODUCTION

Fitzgerald & Halliday, Inc. (FHI) was retained by AECOM to identify and delineate wetlands and watercourses that may be impacted by work related to the construction activity associated with the Metropolitan District Commission (MDC) South Hartford Conveyance and Storage Tunnel in the towns of West Hartford and Newington, Connecticut (see Figure 1 – Study Area). The wetland investigation was confined to the area between Steven Street in West Hartford and North Mountain Road in Newington, outlined by the red polygon on Figure 1.

The entire study area was investigated for the presence of wetlands and watercourses. Wetlands were delineated as well as portions of those wetlands that extended beyond the study area, to encompass potential staging and access areas that might be needed during future project construction activity. FHI soil scientist David Laiuppa conducted a preliminary determination on October 21st, 2015 and followed up with an in-season delineation on March 18, 2016. At the request of AECOM and the Town of Newington the spring delineation included a southerly extension of the wetland delineation review area.

Due to seasonal conditions that affect and/or limit vegetative growth habits and naturally unrestricted hydraulic flow patterns, the U.S. Army Corps of Engineers (USACE) recommends that wetland delineations ideally be performed during the wet portion of the growing season. USACE guidelines state that, in the event that preliminary wetland determinations are performed outside of the wet portion of the growing season, on-site investigations should subsequently be made during the following growing season in order to verify the preliminary boundary determinations to successfully conclude wetland delineation.

Because of climatic variations, growing season dates vary from region to region. USACE guidelines describe that the normal growing season is determined by above-ground growth and development of vascular plants and/or by soil temperature. It is generally accepted that the typical growing season for non-coastal communities in Connecticut begins in the last week of April and ends in the second week of October.

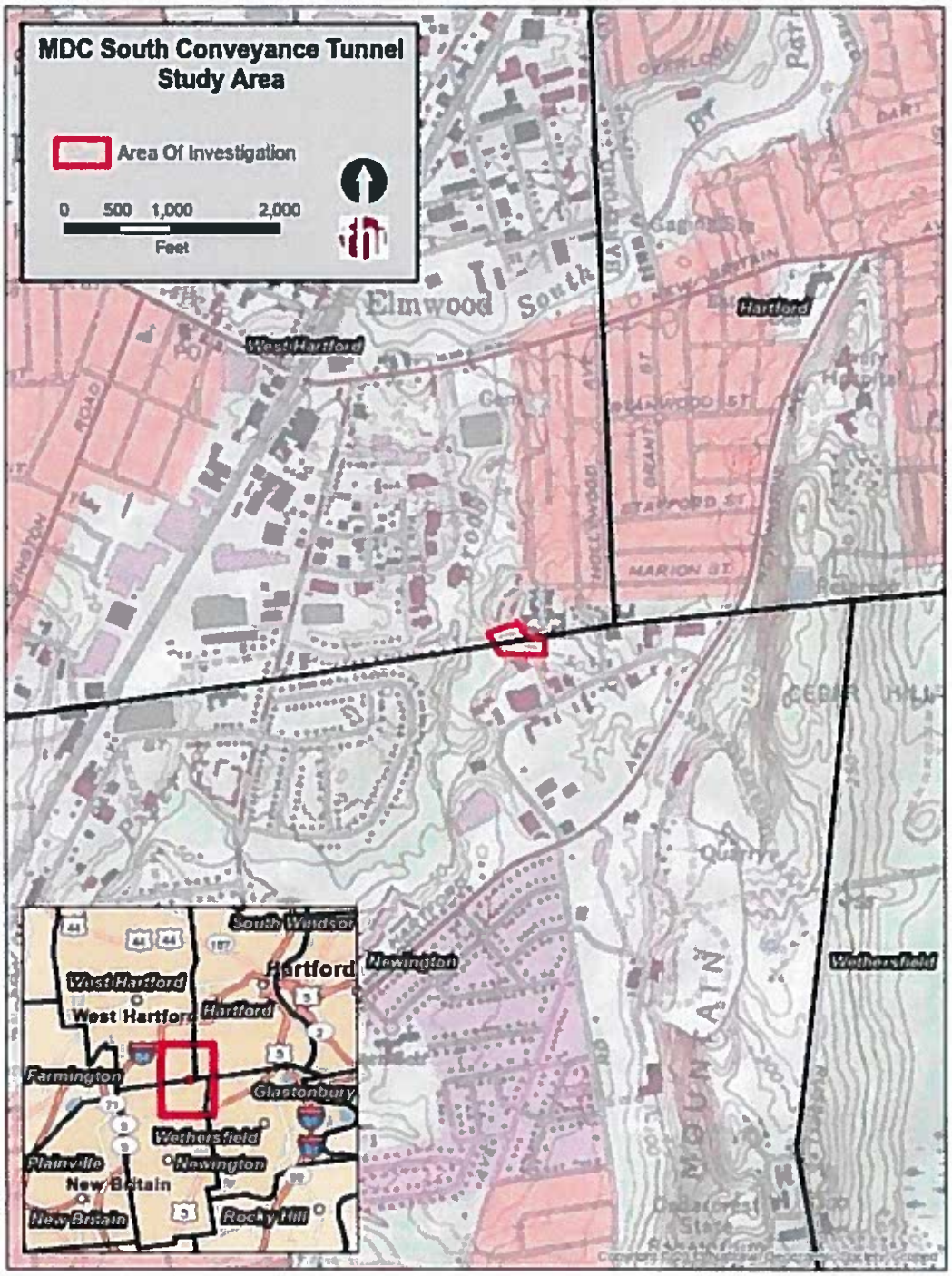



**Figure 1 - Study Area**

## 2.0 METHODS

FHI delineated wetland resources in accordance with state and federal definitions and guidelines. The identification of inland wetlands and watercourses, as regulated by Connecticut, were based upon the definitions contained in Section 22a-38 of the General Statutes of Connecticut. Connecticut inland wetland boundaries are determined by the limit of any of the soil types designated as poorly drained, very poorly drained, alluvial, and flood plain by the National Cooperative Soils Survey, as may be amended from time to time, of the Natural Resources Conservation Service (NRCS) of the United States Department of Agriculture (§22a-38-15). NRCS soil surveys were consulted to compare observed soil types to those generally expected in the project area. Hydric soils, which include both poorly and very poorly drained soils, were identified for conformance with the *Field Indicators for Identifying Hydric Soils in New England Version 3* (2004) and *Field Indicators of Hydric Soils in the United States, Version 7.0* (2010).

Federal wetlands were identified per the USACE 1987 *Wetland Delineation Manual* and the USACE 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region – Version 2.0.* The federal wetland boundary was determined by the limit of wetland vegetation (limit of plant community dominated, 50% or more cover, by species adapted to living in wetland conditions) by visual inspection, as well as indicators of hydric soils and wetland hydrology.

Wetland areas were marked in the field using consecutively-numbered flags along the wetland/upland interface. A hand-held GPS unit was used to document the location of each flag for the purposes of preparing a field sketch. The GPS lines in this report should not be used for engineering design purposes.

## 3.0 RESULTS

FHI's soil scientist flagged the boundaries of one (1) wetland within the project study area, identified by a single alpha-numeric flag line. The boundary of Wetland A ended in an open fashion because the wetland system continues beyond the project area; this is noted in the detailed description below.

FHI prepared field sketches for the delineated wetland using a hand-held GPS unit (Garmin GPS 62stc). FHI's delineation sketch sheet (useful only for reference, not for design) is depicted in Figure 2 – Wetland Delineation Sketch. Wetland delineation flags were located by instrument survey, conducted by others, for portrayal on engineering drawings and use during design.

The field work confirms and supports the NRCS mapped designation of Udorthents-Urban land complex within the developed portions of the study area, and Hinckley gravelly sandy loam and Limerick and Lim soils with wetland areas, floodplains. See Section 5.0 for the NRCS map and soils descriptions.

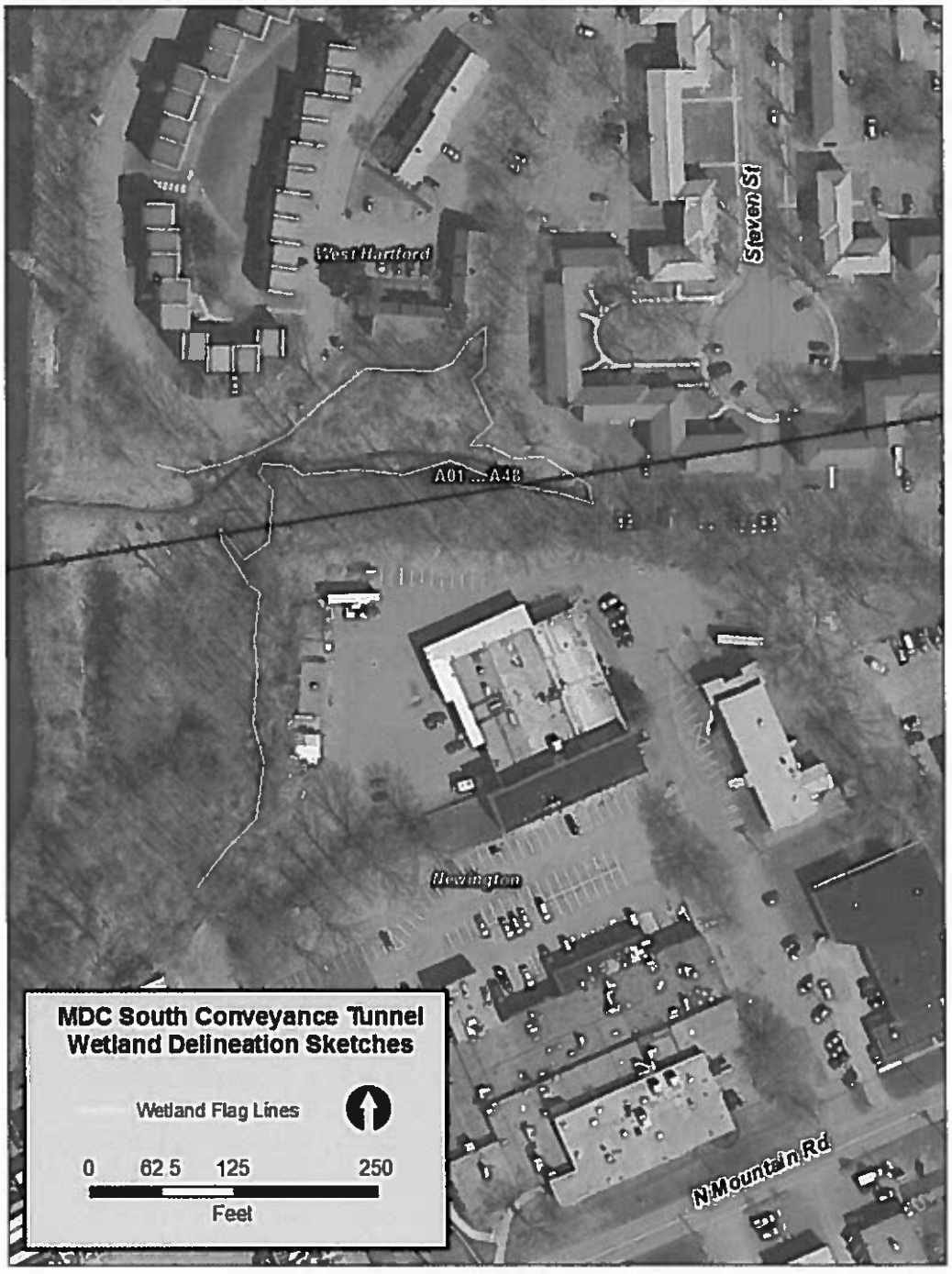



**Figure 2 - Wetland Delineation Sketch**

## 4.0 DETAILED WETLAND DESCRIPTIONS

The detailed description of the flagged wetland presented below includes information about the approximate location of the flag series, the wetland's connectivity to watercourses and adjacent wetlands, NRCS mapped soils, and dominant vegetation of the described wetland areas.

Wetland A (Flag Numbers A-1 to A-48)

Wetland A is a forested and scrub-shrub wetland located at the northern end of the project area and extending into a large floodplain associated with Piper Brook to the west, beyond the project area. A small, perennial watercourse flows through this wetland from east to west, and ultimately flows into Piper Brook. The watercourse receives waters from an outfall at the eastern end of the study area (see Photo 2 in Appendix A), adjacent to a parking lot. Additionally, the wetland and watercourse receive runoff from upland slopes to the north and south, leading down to the wetland and floodplain. This wetland extends to the west, beyond the limit of area of investigation, into the adjacent Piper Brook floodplain. Within the floodplain area there are two potential vernal pools (see Photos 3 and 4 in Appendix A). An elevated sewer main passes through the wetland, over the perennial watercourse (see Photo 1 in Appendix A).

This forested/scrub-shrub wetland is dominated by willows (*Salix spp.*), red maples (*Acer rubrum*), black locust (*Robinia pseudoacacia*), multiflora rose (*Rosa multiflora*), and silky dogwood (*Cornus amomum*) in the tree and shrub layers. There are also patches of common reed (*Phragmites australis*), and Japanese knotweed (*Polygonum cuspidatum*) in the herbaceous layer. The NRCS mapped soils adjacent to and within Wetland A are Hinckley gravelly sandy loam, Limerick and Lim soils, and Udorthents-Urban Land complex. Additionally, the disturbed soils within the wetland area can be described as Aquents. The principal functions of this wetland are sediment/toxicant retention from adjacent land uses, minor floodflow alteration during extreme flood events of Piper Brook, and small scale wildlife habitat for urban wildlife and in the potential vernal pools.

## 5.0 NRCS MAPPED SOILS

The NRCS has published a series of soil surveys for most of the United States. The NRCS soil surveys are used to enhance understanding of, and to help describe a particular geographic area. These surveys have recently been updated for the State of Connecticut, and are available as a digital GIS layer. The soil surveys contain taxonomic descriptions of different soil series, as well as soil maps depicting soil map units.

NRCS soils classifications on the project site are depicted in Figure 3- NRCS Mapped Soils by their soils number. Only those on the project site are described below.

**Hinckley Series (38E)**

The Hinckley series consists of very deep, excessively drained soils formed in glaciofluvial materials. Surface runoff ranges from negligible to low. They are nearly level through very steep soils on terraces, outwash plains, deltas, kames, and eskers. Slope is generally 0 through 8 percent on the tops of the terraces, outwash plains and deltas. Slopes of 8 through 60 percent or more are on the kames, eskers and margins of the outwash plains, deltas, and terraces. The soils formed in glaciofluvial sand and gravel and are derived principally from granite, gneiss, and schist.

**Limerick and Lim Soils (107)**

**Lim Series**

The Lim series consists of very deep, poorly drained loamy soils formed in alluvial sediments. They are nearly level soils on flood plains and are subject to frequent flooding. Slope ranges from 0 to 3 percent. Saturated hydraulic conductivity ranges from moderately low to moderately high in the solum and high or very high in the substratum. Lim soils are nearly level soils on flood plains along low gradient rivers and streams. They are in relatively low areas. The soils formed in recent alluvium derived from a variety of crystalline and sedimentary rocks. Poorly drained. Surface runoff is negligible or low. Saturated hydraulic conductivity ranges from moderately low to moderately high in the solum and high or very high in the substratum. These soils flood frequently typically in the spring of each year.

**Limerick Series**

The Limerick series consists of very deep, poorly drained soils on flood plains. They formed in loamy alluvium. Saturated hydraulic conductivity is moderately high or high. Slope ranges from 0 to 3 percent. Limerick soils are on the flood plains of major rivers and their larger tributaries. In some places they are on the flood plains of small streams. They may be on broad flat areas or in shallow depressions. The soils formed in recent alluvial deposits that are dominantly silt and very fine sand. Most areas are flooded for periods of several days each year, usually in late winter or early spring.

**Udorthent-Urban Land Complex (306)**

These map units consist of moderately sloping to steep areas where the original soil has been cut away or covered with a gravelly fill material. Most of these areas have been graded to a smooth surface with 4 to 10 inches of topsoil. This soil is commonly located on outwash plains and moraines, but occurs in a variety of landscape positions. Soil permeability varies from moderate to very rapid. They typically possess depths of greater than 5-6 feet to bedrock and groundwater.

**Udorthents** – A map unit consisting of well-drained to excessively well-drained soil composed of cut areas, filled areas, or both. They are often in association with urban

areas. In areas that were cut, the surface layer has been removed and in fill areas, typically more than 20 inches of soil material has been placed on the surface. Often both cut and fill areas occur in close proximity as areas were often graded and smoothed forming a complex pattern of cuts and fills.

**Urban Land**: unit which are areas developed by buildings, roads, and other developments limiting the ability to inspect and map underlying soil types.

**Udorthents, Flood Control (309)**

Flood Control Udorthents consist of earthy materials that have been shaped or otherwise disturbed by man in order to form artificial levees. Most areas are in dams, levees, channels, or other flood control structures. Slopes range from nearly level to steep. Depth to bedrock is very deep. Drainage class is moderately well drained. Onsite investigations are required for interpretations.

**Aquents**

Auquents consist of earthy materials with an "aquic moisture regime" that have been shaped or otherwise disturbed by man. Slopes range from 0 to 25 percent. On-site investigations are required for interpretations.

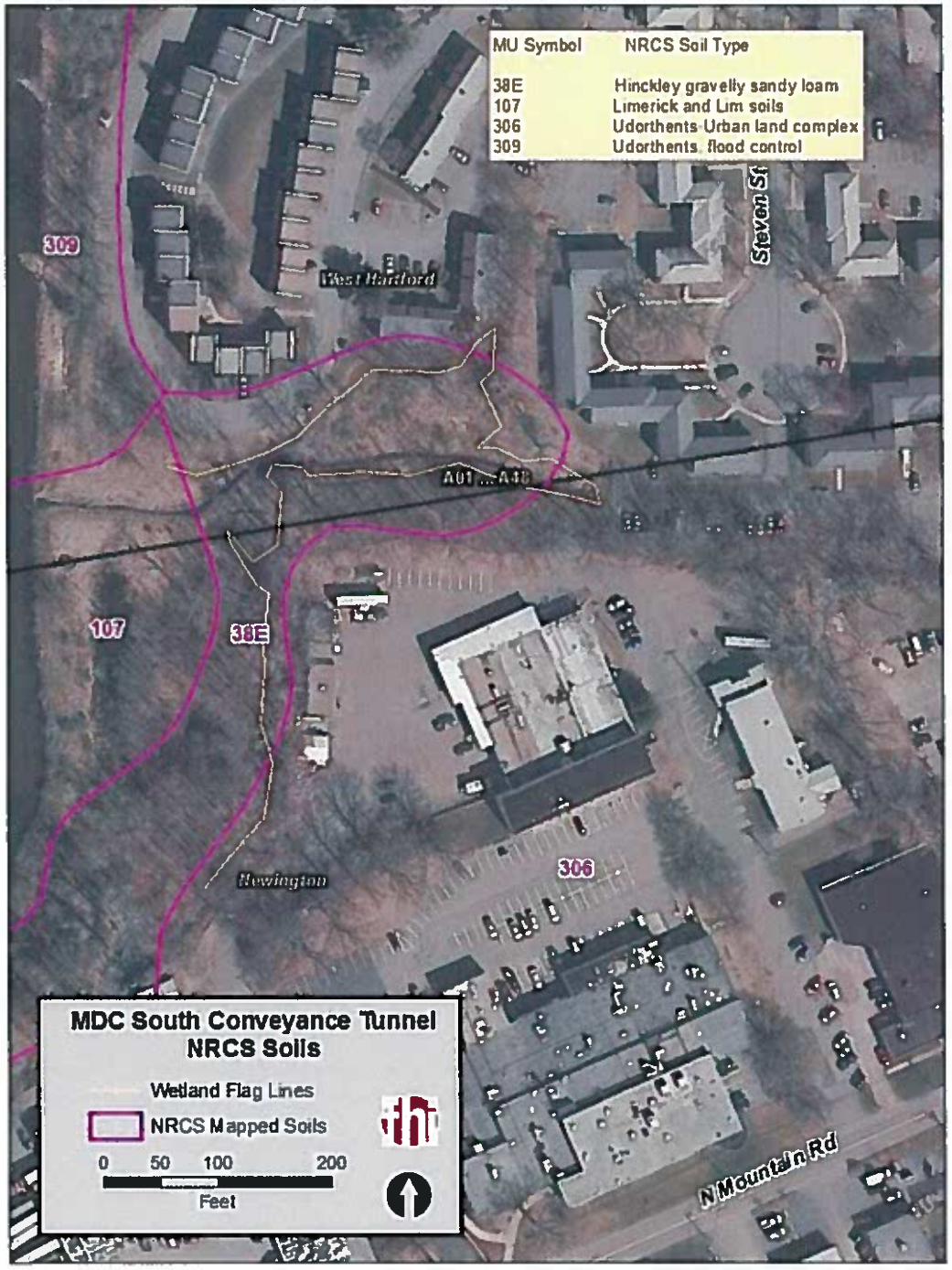



**Figure 3 - NRCS Mapped Soils**

## 6.0 SUMMARY

FHI delineated wetland resources within the study area in accordance with both federal and state definitions and guidelines. One (1) wetland area was identified by flag series. The wetland meets the state and federal definitions constituting it as a regulated State and Federal Wetland, and the wetland boundary is coincident. The lands surrounding the wetland on the north, east, and south sides have all been disturbed by human activity, however, lands within the wetland offer a high value to the environmental communities which reside within it.

Wetland photographs are attached to this report in Appendix A.

Delineations carried out for this project are valid for a maximum of five years, depending on changing conditions as a result of cultural or environmental influences.

Respectfully submitted,

David Laiuppa

David Laiuppa
Certified Soil Scientist
Fitzgerald & Halliday, Inc.

## 7.0 REFERENCES


Cowardin, L.M., V. Carter, F.C. Golet, and E.T. Laroe, 1979, Classifications of Wetlands and Deepwater Habitats of the United States, U.S. Department of the Interior, Office of Biological Services, Fish and Wildlife Services: Washington, DC.

Kollmorgen Instruments Corp, 1992, Munsell Soil Color Charts, 2009 Revised Edition, Grand Rapids, Michigan.

National Technical Committee for Hydric Soils, 1991, Hydric Soils of the United States, U.S. Department of Agriculture: Washington, DC.

Lichvar, R.W. 2012. The National Wetland Plant List. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. 2016. Official Soil Series Descriptions [Online WWW]. Available URL: "http://soils.usda.gov/technical/classification/osd/index.html".

USACE 1999. Highway Methodology Workbook Supplement: Wetland Functions and Values - A Descriptive Approach. New England Division. Publication no. NAEEP-360-1-30a. November 1995. 32 pp.

USDA, NRCS. 2016. The PLANTS Database (http://plants.usda.gov). National Plant Data Team, Greensboro, NC 27401-4901 USA.

Weed Science Society of America. Composite List of Weeds (http://wssa.net/weed/composite-list-of-weeds/ ). Lawrence, KS 66044 USA

## APPENDIX A: WETLAND PHOTOGRAPHS

Photo 1: Wetland A (facing northeast)

Photo 2: Wetland A (facing east)

Photo 3: Potential Vernal Pool #1 (facing north)

Photo 4: Potential Vernal Pool #2 (facing east)

# Attachment C

## Updated Wetlands Amendment Map
## 107 Hillcrest Ave, West Hartford